

What is claimed is:

1. An objective lens for use in an optical pickup apparatus for conducting recording and/or reproducing information for an optical information recording medium, comprising:

a lens section shaped in an approximate circle and including a flange section; and

a projecting section integrally provided to the lens section;

wherein the following conditional formulas are satisfied:

$$0.5 \leq A \leq 2.0$$

$$0.3A \leq B \leq 1.7A$$

where A is a diameter (mm) of the lens section when the lens section is viewed from an direction of an optical axis, and B is a width (mm) of the projecting section when the projecting section is viewed from the direction of the optical axis.

2. The objective lens of claim 1, wherein the projecting section is extended from the lens section in a direction substantially perpendicular to the optical axis..

3. The objective lens of claim 1, wherein the following conditional formulas are satisfied:

$$0.3A \leq B \leq 0.8A$$

4. The objective lens of claim 1, wherein the following conditional formulas are satisfied:

$$0.5 \leq A \leq 1.5$$

$$0.3A \leq B \leq 1.0A$$

5. The objective lens of claim 1, wherein the diameter A of the lens section is 1 mm to 1.5 mm.

6. The objective lens of claim 1, wherein the width B of the projecting section is 0.5 mm to 1.0 mm.

7. The objective lens of claim 1, wherein the following conditional formulas are satisfied:

$$0.05 \leq E \leq 0.5$$

$$E \leq D/2$$

Where E is a thickness (mm) of the projecting section and D is an axial thickness (mm) of the lens section.

8. The objective lens of claim 1, wherein the following conditional formulas are satisfied:

$$1.1 \leq C/A \leq 4.0$$

where C is a total length (mm) of the lens section and the projecting section.

9. The objective lens of claim 1, further comprising a second projecting section integrally provided to the lens section, wherein the projecting section and the second projecting section are extended from the lens section in respective opposite directions each substantially perpendicular to the optical axis.

10. The objective lens of claim 9, wherein the size of the projecting section is different from that of the second projecting section.

11. The objective lens of claim 10, wherein the thickness of the projecting section in the direction of the optical axis is different from that of the second projecting section.

12. The objective lens of claim 9, wherein the length of the projecting section in the direction perpendicular to the

optical axis is different from that of the second projecting section.

13. The objective lens of claim 10, wherein the width of the projecting section when the projecting section is viewed from the optical axis is different from that of the second projecting section.

14. The objective lens of claim 1, wherein the projecting section is shaped in a square and the lens section is positioned at the center of the square.

15. The objective lens of claim 1, wherein the lens section is an aspheric lens section.

16. The objective lens of claim 1, wherein the lens section is provided with a diffractive structure.

17. The objective lens of claim 1, wherein the objective lens is made of a plastic.

18. The objective lens of claim 1, wherein the objective lens is made of a glass.

19. The objective lens of claim 1, wherein the objective lens is a molded lens with a resin.

20. The objective lens of claim 19, wherein the resin is filled through a single gate in a mold so that the molded lens has a single projecting section.

21. The objective lens of claim 20, wherein the projecting section is used as a resin flowing passage in a mold.

22. The objective lens of claim 19, wherein the resin is filled through plural gates in a mold so that the molded lens has plural projecting sections.

23. The objective lens of claim 19, wherein the resin is filled through two opposite gates in a mold so that the molded lens has two opposite projecting sections.

24. The objective lens of claim 19, wherein the molded lens has a square projecting section and the resin is filled through one end of the square projecting section.

25. The objective lens of claim 19, wherein the molded lens has a weld portion at a position other than an optical functional section.

26. The objective lens of claim 19, wherein the molded lens is produced by a method of injection molding.

27. The objective lens of claim 19, wherein the molded lens is produced by a method of compression molding.

28. An optical pickup apparatus, comprising:  
the objective lens described in claim 1.